UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>21 September 2004</u>.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-7 and 10-23* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 4-7, and 10-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed 9/21/04 have been fully considered but they are not

persuasive.

Applicant argues that the combination of Howe, Metz, Raychaudhuri and Surine

would not result in the claimed combination of either claims 1 or 7 (response page 3).

Applicant argues that there is no motivation to combine the references (page 3).

Applicant argues that the examiner has not considered the claimed combination

as a whole, and that the references cannot be combined in any manner to yield this

feature (pages 3-4).

In response to applicant's argument that there is no suggestion to combine the

references, the examiner recognizes that obviousness can only be established by

combining or modifying the teachings of the prior art to produce the claimed invention

where there is some teaching, suggestion, or motivation to do so found either in the

references themselves or in the knowledge generally available to one of ordinary skill in

the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re*

Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Howe is relied

upon for teaching a receiver which receives multiplexed transport stream data which is

MPEG2 data encapsulated in ATM cells, via a receiver which has a processor and

memory (column 9, lines 54-65, column 21, lines 20-29), but does not specifically

disclose the use of a demultiplexer (nor is it specifically described how the ATM

formatted MPEG2 streams are converted into a form processable by the receiver of

Howe), and buffer memory which utilizes a buffer sizing algorithm which sizes the buffer

depending upon a streams bitrate, the algorithm preformed in response to a power on

signal. Metz discloses a similar system (column 16, line 48-column 17, line 16, column

23, lines 16-56, column 32, lines 4-31) in which includes a demultiplexer, and inherently

includes buffer memory, as a buffer is required to store the ATM cells prior to

reassembling the cells into MPEG 2 streams. Metz is relied upon to teach how the

MPEG2 ATM encapsulated is processed by the receiver, and the use of a demultiplexer

and buffer memory. Raychadhuri is relied upon for teaching a buffer sizing algorithm in

an ATM system (column 7, line 35-column 8, line 3), which must occur while power is

supplied to the processor logic. Combining Raychadhuri with Howe and Metz would be

desirable as the resulting system would allocate enough memory for the received

bitstream and insure that a buffer underflow or overflow would not occur which would

otherwise result in the improper display of a video image. The combination specifically

fails to disclose performing the buffer sizing algorithm in response to a power on signal.

Surine is relied upon for teaching initializing a buffer allocation after powering up in an

embedded system, more specifically, a processing unit 305 executes boot code 401

from ROM 310, which instantiates the operating system and sets up the various buffers

and working memories (column 5, lines 9-47). Combining Howe, Metz, and Raychadhuri

with Surine would provide an advantageous feature in that Surine ensures that a buffer

would be available as soon as possible upon initialization of the device. The

combination of Howe, Metz, Raychadhuri and Surine, would result in a system in which

a broadcast receiver with a processor and memory, executes a buffer sizing algorithm

upon receiving a power up signal to allocate and reserve memory within the broadcast

receiver to process incoming MPEG2 data which is encapsulated in ATM streams as

required by claims 1 and 7.

Applicant argues that "loading up a buffer program upon device startup as taught

by Surine is not suggestive of a processor unit reserving a storage area having a said

optimal buffer size in response to a power on signal." (response page 3).

Surine discloses a processing unit 305 executes boot code 401 from ROM 310,

which instantiates the operating system and sets up the various buffers and working

memories (column 5, lines 9-47). As Surine teaches that the buffer sizing occurs in

RAM 315 (storage area) after the device receives a power on signal, it meets the

limitation of a processor reserving a storage area in response to a power on signal. The

combination of Surine with the optimal buffer sizing algorithm of Howe, Metz,

Raychadhuri would result in a system in which a processor unit reserves a storage area

having a said optimal buffer size in response to a power on signal as required by claim

1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1, 4-7, and 10-23 are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Patent 5,892,508 to Howe in view of U.S. Patent 5,978,855 to

Metz, U.S. Patent 5,684,791 to Raychaudhuri and U.S. Patent 6,212,632 to Surine.

Regarding claims 1, 6, 7 and 12, Howe discloses a broadcast receiver 100

(figure 8) for separating multiplexed transport stream data (digital MPEG2 streams

encapsulated in ATM cells, column 9, lines 54-65, column 21, lines 20-29),

A receiving unit 1218 for receiving the multiplexed transport stream data (column

21, lines 21-29),

A memory 1229/1230,

A processing unit 1228 (column 22, lines 10-27).

Howe fails to disclose a memory for storing said received transport stream data,

a processing unit which determines an optimal buffer size in accordance with a bit rate

of said received transport stream data, and reserves in memory in response to a power

on signal in the receiver, a storage area having a optimal buffer size, and a

demultiplexer which utilizes the storage area for separating transport packets from the

received transport stream,

Metz discloses in Figure 6, a Set top box 100, which receives MPEG 2 video

encapsulated in ATM cells that encapsulated by ATM multiplexer 29, an ATM demux

and MPEG system demux 127 within the STB 100 reassembles the MPEG video/audio

prior to it being supplied to audio decoder 131 and video decoder 129 (column 16, line

48-column 17, line 16, column 23, lines 16-56, column 32, lines 4-31). Metz inherently

includes a buffer, as a buffer is required to store the ATM cells prior to reassembling the cells into MPEG 2 streams.

Therefore it would have been obvious to one skilled in the art at the time of invention to modify Howe to transmit MPEG 2 video encapsulated in ATM cells which is converted back into MPEG 2 video at the Set Top Box which utilizes a demultiplexer and memory as taught by Metz thus providing more bandwidth for each channel.

Howe and Metz fail to disclose a buffer sizing scheme, which allocates a buffer size according to a received bitrate, the buffer sizing preformed in response to a power on signal.

Raychaudhuri discloses a data link control layer in which buffer size is determined by the bit rate for the transmitted ATM stream (column 7, line 35-column 8, line 3), thus allocating enough memory for the received bitstream and insurance that a buffer underflow or overflow resulting in the improper display of a video image.

Therefore it would have been obvious to one skilled in the art at the time of invention to modify Howe and Metz to include the ATM buffer size bit rate determination as taught by Raychaudhuri, thus insuring that a buffer would not underflow/overflow resulting in the improper display of a video image.

Howe, Metz and Raychaudhuri fails to disclose performing the buffer size determination after a power on signal is issued.

Surine discloses a buffer function, which is loaded from ROM and then is setup within an embedded computer system's RAM for allocating buffer memory upon the powering up of the device (figures 8, 9, column 4, lines 46-column 6, line 2, column 7,

lines 45-57, column 8, line 65-column 9, line 21), thus ensuring that a buffer would be available as soon as possible. Surine inherently detects a power up signal, as Surine discloses in Figure 8 and 9, that the boot code from the ROM is executed after power up steps 801 and 901.

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the combination of Howe, Metz and Raychaudhuri to load up a buffer program upon device startup as taught by Surine, thus enabling a device to receive and process data as soon as possible.

Regarding claims 4, 5, 10, and 11, Howe discloses the use of non-volatile memory 1214 for storing information (column 21, lines 1-29). Howe does not disclose storing the buffer size-determining program in non-volatile memory, but does disclose memory 1229 and 1230 for storing system software (column 22, lines 11-29).

Surine discloses a buffer function, which is loaded from ROM and then is setup within an embedded computer system's RAM for allocating buffer memory upon the powering up of the device (figures 8, 9, column 4, lines 46-column 6, line 2, column 7, lines 45-57, column 8, line 65-column 9, line 21).

Regarding claims 13 and 15, Howe discloses a broadcast receiver 100 (figure 8) for separating multiplexed transport stream data (digital MPEG2 streams encapsulated in ATM cells, column 9, lines 54-65, column 21, lines 20-29), which utilizes a processor, which loads data from computer readable medium (column 22, lines 10-20),

A processing unit 1228, reads instructions from a computer readable medium (column 22, lines 10-27).

Howe fails to disclose if the program is executed immediately in response to a power reset signal generated by the receiver, determining an optimal buffer size in accordance with a bit rate of said received transport stream data, and reserves in memory in a storage area having a optimal buffer size.

Metz discloses in Figure 6, a Set top box 100, which receives MPEG 2 video encapsulated in ATM cells that encapsulated by ATM multiplexer 29, an ATM demux and MPEG system demux 127 within the STB 100 reassembles the MPEG video/audio prior to it being supplied to audio decoder 131 and video decoder 129 (column 16, line 48-column 17, line 16, column 23, lines 16-56, column 32, lines 4-31). Metz inherently includes a buffer, as a buffer is required to store the ATM cells prior to reassembling the cells into MPEG 2 streams.

Therefore it would have been obvious to one skilled in the art at the time of invention to modify Howe to transmit MPEG 2 video encapsulated in ATM cells which is converted back into MPEG 2 video at the Set Top Box which utilizes a demultiplexer and memory as taught by Metz thus providing more bandwidth for each channel.

Howe and Metz fail to disclose a buffer sizing scheme, which allocates a buffer size according to a received bitrate, the buffer sizing preformed in response to a power reset signal.

Raychaudhuri discloses a data link control layer in which buffer size is determined by the bit rate for the transmitted ATM stream (column 7, line 35-column 8,

line 3), thus allocating enough memory for the received bitstream and insurance that a

buffer underflow or overflow resulting in the improper display of a video image.

Therefore it would have been obvious to one skilled in the art at the time of

invention to modify Howe and Metz to include the ATM buffer size bit rate determination

as taught by Raychaudhuri, thus insuring that a buffer would not underflow/overflow

resulting in the improper display of a video image.

Howe, Metz and Raychaudhuri fail to disclose performing the buffer size

determination after a power reset signal is issued.

Surine discloses a buffer function, which is loaded from ROM and then is setup

within an embedded computer system's RAM for allocating buffer memory upon the

powering up of the device (figures 8, 9, column 4, lines 46-column 6, line 2, column 7,

lines 45-57, column 8, line 65-column 9, line 21), thus ensuring that a buffer would be

available as soon as possible. Surine inherently detects a power up signal, as Surine

discloses in Figure 8 and 9, that the boot code from the ROM is executed after power

up steps 801 and 901.

Therefore, it would have been obvious to one skilled in the art at the time of

invention to modify the combination of Howe, Metz and Raychaudhuri to load up a

buffer program upon device startup as taught by Surine, thus enabling a device to

receive and process data as soon as possible.

The examiner takes official notice that a user pressing a power on and a power

reset button, which transmits a power on signal, is well known in the art. Power on

buttons and power reset buttons enable a user to clear a device of an error state and enable a user to turn on a device at a time of their own choosing.

Therefore it would have been obvious to one skilled in the art at the time of invention to modify the combination of Howe, Metz, Surine and Raychaudhuri to utilize a power on and power reset button, thus enabling a user to turn on a device at any time of their choosing, and allowing a user to reset a receiver if the receiver crashes.

Regarding claim 14, Howe discloses a set top box 100 in figure 8, which receives an analog or digital video signal. Metz discloses a STB 100, which converts, received ATM cells back into their original MPEG 2 streams. Raychaudhuri discloses that the buffer size determination is made as part of the Data link Control layer in a wireless ATM system. Raychaudhuri's DLC layer is inherently part of a program to be executed by the processor as the DLC layer is part of the header file for a packet and programming is required in order to recognize that layer. Raychaudhuri inherently executes the buffer sizing program when the power is turned on as Raychaudhuri detects the type of data being received and allocates the buffer sized based upon the bit rate, if Raychaudhuri did not check that function and received various streams of different bit rates, the buffer would over/underflow.

Regarding claims 16-23, Surine discloses a buffer function, which is loaded from ROM and then is setup within an embedded computer system's RAM for allocating buffer memory upon the powering up of the device (figures 8, 9, column 4, lines 46-

column 6, line 2, column 7, lines 45-57, column 8, line 65-column 9, line 21). Surine

inherently detects a power up signal, as Surine discloses in Figure 8 and 9, that the

boot code from the ROM is executed after power up steps 801 and 901.

Howe, Metz, Surine and Raychaudhuri do not disclose the use of a power reset,

or a switch for a user to turn on the power to the device.

The examiner takes official notice that a user pressing a power on and a power

reset button, which transmits a power on signal, is well known in the art. Power on

buttons and power reset buttons enable a user to clear a device of an error state and

enable a user to turn on a device at a time of their own choosing.

Therefore it would have been obvious to one skilled in the art at the time of

invention to modify the combination of Howe, Metz, Surine and Raychaudhuri to utilize a

power on and power reset button, thus enabling a user to turn on a device at any time of

their choosing, and allowing a user to reset a receiver if the receiver crashes.

Conclusion

3.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Hunter B. Lonsberry whose telephone number is 703-

305-3234. The examiner can normally be reached on Monday-Friday during normal

business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Christopher Grant can be reached on 703-305-4755. The fax phone

number for the organization where this application or proceeding is assigned is 703-

872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

HBL

CHRIS GRANT
PRIMARY EXAMINER